Air Quality Summary—April 2012

Baton Rouge Area

OZONE

There were no days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in the Baton Rouge area during the month of April, 2012. Please see the graph on page two for daily air quality index levels in the Baton Rouge area during April.

No Air Quality Action Days were called for the Baton Rouge area during April.

$PM_{2.5}$

There were no violations of the NAAQS for $PM_{2.5}$ in the Baton Rouge area during the month of April, 2012. Please see the chart and table on the next page for detailed information on $PM_{2.5}$ levels throughout the state.

Other Areas of the State

OZONE

There were two days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in areas of the state other than Baton Rouge during the month of April, 2012. Please see the table below for more detailed information on air quality levels during the month of April.

An Air Quality Action Day for PM2.5 was called for the New Orleans area on April 8, 2012 due to smoke from regional wildfires.

$PM_{2.5}$

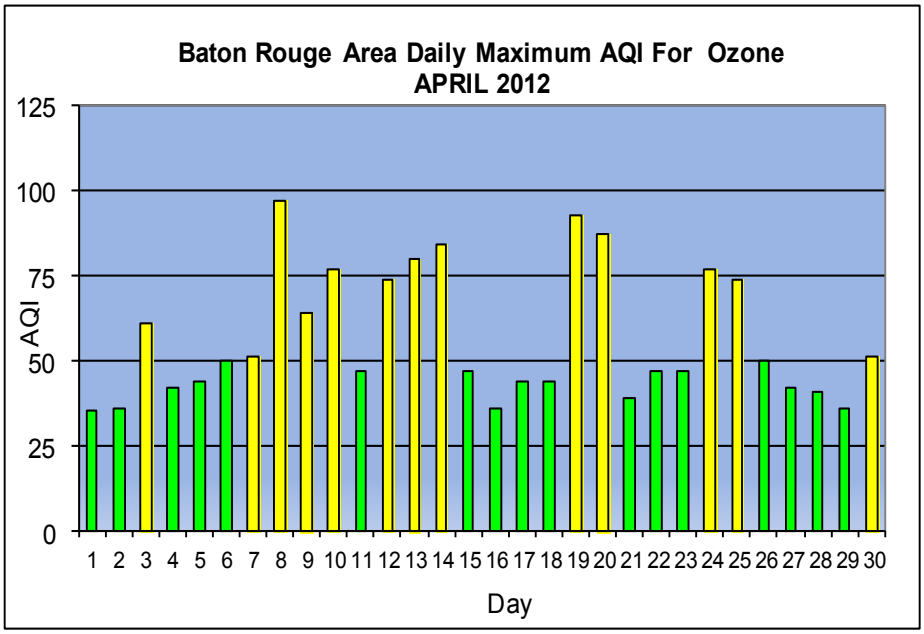
There were no violations of the NAAQS for $PM_{2.5}$ during the month of April, 2012. Please see the chart and table on the next page for detailed information on $PM_{2.5}$ levels throughout the state.

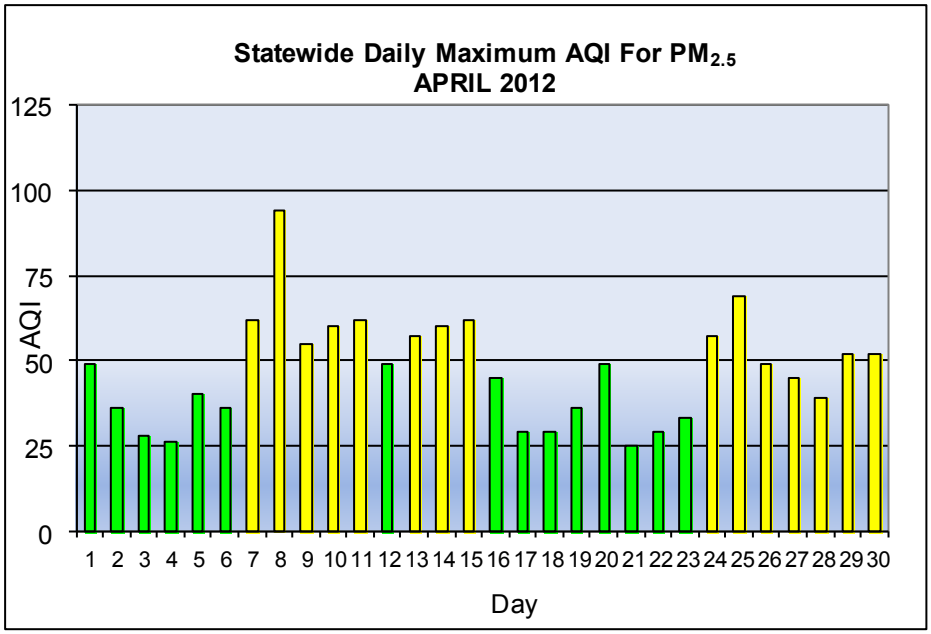
Statewide 8-HR Ozone Readings
Above 75 ppb - April 2012

DATE	AQI	8-HR OZONE Concentration (ppb)	MONITORING SITE
4/20/2012	109	79	Kenner
	101	76	Meraux

Air Quality Summary—April 2012

AQI AIR QUALITY INDEX | Good | Moderate | Unhealthy for Sensitive Groups | Unhealthy | Very Unhealthy | Hazardous





Statewide High PM2.5 24-Hour Average Readings - APRIL 2012			
DAY	UG/m3	AQI	SITE
1	15	49	Monroe
2	11	36	Monroe,Chalmette Vista
3	11.6	28	Westlake
4	8	26	Lafayette,Chalmette Vista
5	12.2	40	Westlake
6	11	36	Monroe
7	20	62	Chalmette Vista
8	33	94	Chalmette Vista
9	17	55	Chalmette Vista
10	19	60	Monroe
11	20	62	Chalmette Vista
12	15	49	Port Allen
13	18	57	Port Allen
14	19	60	Port Allen, Chalmette Vista
15	20	62	Port Allen
16	14	45	Port Allen
17	9	29	Monroe
18	9	29	Chalmette Vista
19	11	36	Chalmette Vista
20	15	49	Chalmette Vista
21	7.7	25	Kenner
22	9	29	Monroe,Port Allen,Chalmette Vista
23	10.2	33	Westlake, Alexandria
24	18	57	Port Allen
25	22.7	69	Alexandria
26	15	49	Port Allen
27	14	45	Port Allen
28	12	39	Port Allen, Chalmette Vista
29	16	52	Port Allen
30	16	52	Port Allen

Baton Rouge Climate Summary—April 2012

*Prepared by: Jay Grymes

(based on available preliminary data as of June 15, 2012)

April 2012 was a warmer-than-normal month for Baton Rouge and much of the Gulf Coast. April's monthly average temperature for Baton Rouge's Metro Airport was 70.2°F, 2.1° above the 30-year April norm. While not a record, April's average temperature does fall within the top quartile for the month. But what may be of greater interest is the persistence of warmer-than-normal days that has marked 2012 thus far: the average temperature for January-through-April (63.9°) ranks as the warmest first four months for Baton Rouge since at least 1930, and is likely the warmest first third of any year ever for metro Baton Rouge!

Daily maximum temperatures during April averaged near 82° (roughly 3° above average) with 9 days during the month reaching 85° or more. While neither of these are April records, both reflect the persistence of warm days (by April standards) through much of the month. April 30th was the warmest day of the month, with an afternoon high of 89°F. Over the course of the month, daily temperatures averaged at or above normal for all but an eight-day period: April 17-24.

April minimum temperatures averaged near 53° (about 2° above the norm). Daily minimums were above 50° on all but three days (Apr 22-24), with the month's lowest minimum -- 44°F -- recorded on the morning of April 24th.

Table 1: Average "daylight hours" sky conditions (to 12,000 ft) during April 2012, based on automated ASOS observations from Baton Rouge's Metro Airport.

Sky Condition: Sunrise to Sunset (Sky Coverage)	Clear to Mostly Sunny (0/10ths – 3/10ths)	Partly Cloudy / Partly Sunny (4/10ths – 6/10ths)	Mostly Cloudy to Cloudy (7/10ths – 10/10ths)
No. Days	17	11	2

Table 1 shows that skies over Baton Rouge were generally "fair" more than half of April 2012, with only two days (Apr 16 & 21) being assessed as "mostly cloudy" during the daylight hours. Skies were rated as "clear" for 7 days, including a four-day run from April 22-25.

Sunrise-to-sunset periods for Baton Rouge during April -- excluding 'Civil Twilight' -- range from 12.5 hours (Apr 1) to 13.4 hours (Apr 30).

Baton Rouge's Metro Airport recorded only 3.27" of rain during April 2012, more than 1" below normal for that location. But Metro Airport's monthly total ranks as the fifth lowest across the greater metro area region based on a survey of 34 reporting sites in the area (Table 2). Comparison with April rainfall totals from 33 additional sites in the greater metro area suggests that April rainfall was near normal to just slightly-below normal for most of the Baton Rouge metro area. Based on the 34 rainfall-reporting sites examined in the area, metro area regional rainfall for April 2012 averaged 4.25", with a median of 4.04"(note that both values are substantially larger that the monthly total reported for Metro Airport).

Table 2: April 2012 rainfall for selected sites across the greater Baton Rouge metro area. (Data are preliminary and provided courtesy of the National Weather Service, the LSU Southern Regional Climate Center, the LSU AgCenter, and the CoCoRaHS Volunteer Network.)

Rainfall-Recording Site	Monthly Rainfall	Monthly DFN	No. Days ≥ 0.01"	No. Days ≥ 1.00"
NWS Cooperative Network Sites				
BR – Metro Airport	***3.27"***	***-1.19"***	***6***	***2***
BR - Concord Estates	3.85"	-0.85"	7	1
BR - Sherwood Forest	3.21"	-1.42"	7	1
Clinton	4.00"	-0.81"	6	1
Denham Springs	3.43"	-0.86"	8	2
Dutchtown	5.16"	--	8	1
Gonzales	4.79"	+0.02"	7	3
Livingston	5.03"	+0.61"	6	1
New Roads	3.36"	-1.10"	8	1
Plaquemine	3.32"	-1.19"	6	2
Port Allen	2.42"	-2.06"	6	1
St. Francisville	5.31"	+0.49"	6	2
CoCoRaHS Volunteer Observers				
Shenandoah 2.1 W (LA-EB-18)	4.44"	--	7	1
Shenandoah 1.5 E (LA-EB-22)	6.58"	--	8	3
Shenandoah 0.8 W (LA-EB-36)	6.21"	--	6	2
Monticello 3.0 ENE (LA-EB-19)	4.03"	--	7	2
Monticello 3.0 SSW (LA-EB-20)	1.96"***(i)***	--	3	1
Monticello 4.6 NNE (LA-EB-31)	4.21"	--	6	3
Baton Rouge 2.7 SW (LA-EB-2)	3.49"	--	7	2
Baton Rouge 3.5 E (LA-EB-14)	3.12"***(i)***	--	5	1
Baton Rouge 2.5 E (LA-EB-27)	3.10"	--	7	1
Baton Rouge 4.3 S (LA-EB-41)	3.81"	--	7	1
Baton Rouge 1.4 WSW (LA-EB-46)	4.20"	--	7	2
Baton Rouge 5.3 S (LA-EB-47)	3.69"	--	6	2
Baton Rouge 2.1 S (LA-EB-48)	3.84"	--	6	1
Inniswold 2.8 S (LA-EB-42)	3.76"	--	8	1
Brownfields 5.8 NE (LA-EB-14)	3.12"***(i)***	--	5	1
Zachary 3.5 WNW (LA-EB-28)	4.05"	--	7	2
Gonzales 4.0 S (LA-AS-5)	4.75"	--	8	1
Gonzales 1.8 NE (LA-AS-9)	6.58"	--	7	2
Prairieville 1.8 NW (LA-AS-10)	5.32"	--	6	1
Port Vincent 4.4 W (LA-AS-2)	5.15"	--	6	2
Wakefield 0.9 WNW (LA-WF-4)	4.68"	--	7***(e)***	1
Additional Metro Area Sites				
LSU Campus (LA-EB-33)	3.86"	--	6	1
WAFB-TV, Downtown BR	3.08"	--	8	1
LSU AgCenter Ben Hur Farm	4.12"	--	7	1
LSU AgCenter St. Gabriel	4.37"	--	10	1

DFN - Departure-from-Normal , "--" - Normals Not Available , M - Missing Value
(e) - Estimated Value , ***(i)*** **-** Incomplete Total

Most of April's rains fell during the first half of the month, with the month's "wettest" spell occurring in association with pre-frontal storms and the subsequent frontal passage during April 2-5. This period included single-day rain totals of one-inch or more for virtually every site in the region, with a number of stations recording multiple days with an inch or more of rain during the 4-day period.

Table 3: Distribution of April rain totals based on sites in Table 2 with complete monthly records.

No. Stations ≤ 2.00"	No. Stations 2.01" - 3.00"	No. Stations 3.01" - 4.00"	No. Stations 4.01" - 5.00"	No. Stations 5.01" - 6.00"	No. Stations ≥ 6.00"
0	1	15	10	5	3

April raindays (days with ≥ 0.01") ranged from 6 to 10 days, with a median of 7 raindays for the 34 sites in Table 2, close to the long-term average of 7.9 raindays during April for Metro Airport.

The run of record warmth for the first four months of 2012 have been accompanied by relatively moist conditions for the metro area. Monthly rains for January, February and March were generally near normal to above normal for the region, but not so excessively wet as to prompt repetitive flooding fears through the spring. While nuisance flooding has been an issue -- street flooding, standing water, and road closures in the usual "suspect spots" -- we've not had extensive flood threats as yet. In addition, the drying trend during the latter half of April has further reduced the concern for extensive property damage during the winter and spring months, the period of most frequent river flooding.

For the Baton Rouge area, April 2012's stormiest day was the 2nd, when afternoon thunderstorms rolled through the region dumping heavy rains over many neighborhoods. NWS Storm Reports noted hail up to 1" ("quarter-sized" hailstones) at multiple sites along with winds gusting winds during the afternoon.

April 2012 reports from the Metro Airport ASOS weather platform included:
- 3 days (Apr 2, 4 & 11) with thunder, compared to a Metro Airport average of 5 days;
- 17 days with fog, including 3 days (Apr 1, 2 & 30) with "dense" fog (visibility < 1/4-mile); and
- smoke and/or haze on 8 dates (Apr 8, 12, 14, 16, 25 & 27-29).

Spring months tend to be windy, but winds recorded at the Metro Airport ASOS platform averaged a modest 6.0 mph during April 2012 -- well below the 42-year average of 8.6 mph for Metro Airport. Daily winds averaged above 10.0 mph on just three dates: April 15, 25 & 26. On the other hand, there were twelve days in April when daily winds averaged less than 5.0 mph, including a seven-day run from April 5-11. Yet even with winds tending to run below average for the month, peak wind gusts topped 20 mph on all but eight days during April, with peak gusts in excess of 30 mph recorded on four dates: April 2, 4, 15 & 17.

Drought Status:
2012 opened with "drought" or "near drought" conditions for the greater Baton Rouge area, but fortunately conditions were far from being as critical as those observed in the western part of the state through much of 2010-2011. According to the weekly ***U.S. Drought Monitor***, early 2012 rains effectively erased the "dry-to-drought" conditions for metro Baton Rouge, with the drought situation improving statewide through the month of April.

Although long-range climate forecasting skill is rather weak during the middle of the year, the current projections from the NWS Climate Prediction Center suggest no signals warning of a return of drought conditions in the coming months.

Tropical Outlook:
Very early forecasts from several professional and private meteorological firms suggest that the 2012 Atlantic Hurricane Season will not be as active -- in terms of the total number of 'named' storms -- as the basin has experienced in recent years. As of late April, the consensus calls for storm frequencies to run closer to 'near normal' activity for the upcoming season. Reasoning includes the facts that (1) tropical Atlantic sea-surface temperatures (SSTs) are currently near- normal to below-normal for this time of year and (2) some long-range outlooks are projecting a return of ***El Niño*** conditions by September. Historically, both normal-to-cool Atlantic SSTs in the spring and the onset of ***El Niños*** prior to or even during the hurricane season are associated with reductions in seasonal storm numbers. However, forecast skill is admittedly low for summer and fall tropical activity at this time of year. In addition, there is no forecast skill for anticipating direct coastal threats so far ahead of the season.

Extended Outlook:
A prolonged ***La Niña*** finally has faded: good news for those that suffered the recent multi-year drought. Rains have been returning to the Bayou State in recent months, effectively ending the worries of spring drought for most of the state.

Extended range forecast for temperatures suggest a 70-75% chance for Baton Rouge area temperatures to run near-normal to above-normal through the summer, with a 40% chance that the summer temperatures will be significantly above the norm. Unfortunately, long-range forecasts offer no guidance regarding anticipated rainfall trends through the summer months.

Figure 1: April 2012 *Daily Max/Min Temperatures and Precipitation* as recorded by the LSU AgCenter/ LAIS Weather Station located at LSU-Ben Hur Farm (Nicholson Drive).

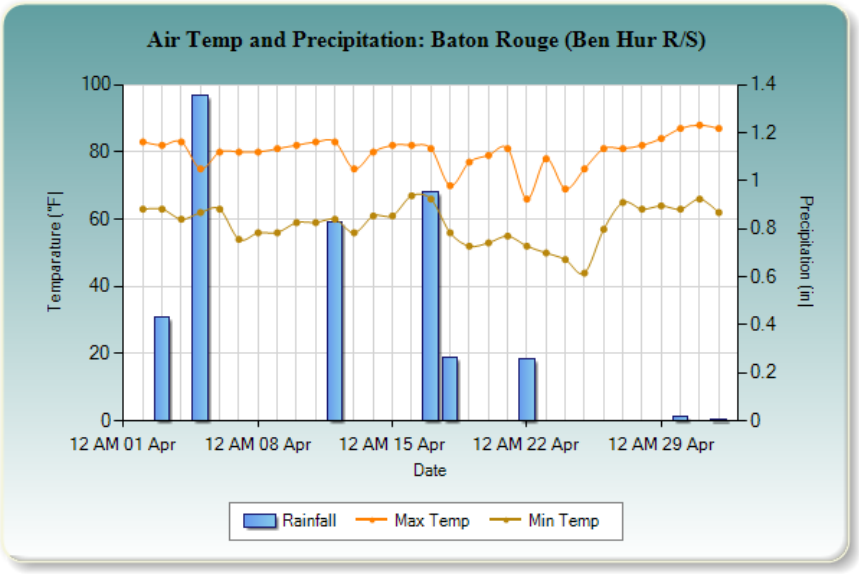


Figure 2: April 2012 *Daily Solar Radiation and Max/Min Daily Temperatures* as recorded by the LSU Ag-Center/LAIS Weather Station located at LSU-Ben Hur Farm (Nicholson Drive).

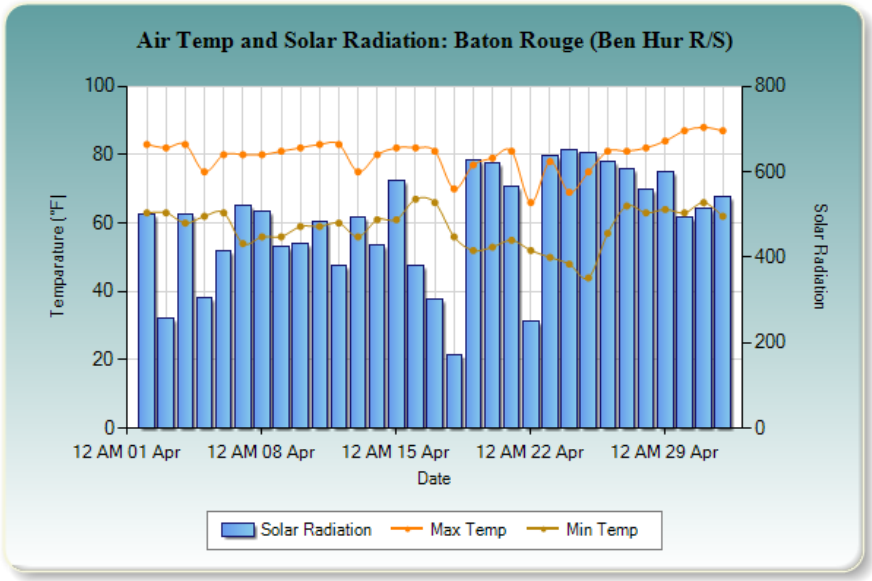
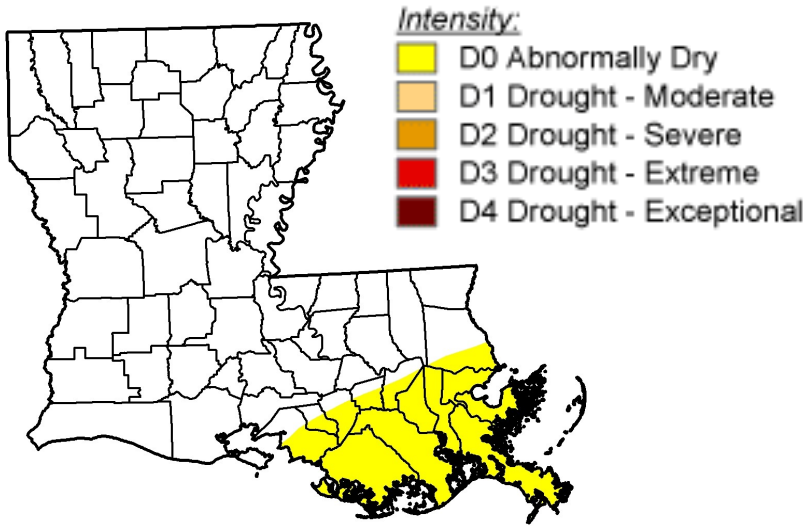


Figure 3: Weekly ***U.S. Drought Monitor*** depiction for 1 May 2012.
Source: http://drought.unl.edu/DM/



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- LSU Southern Regional Climate Center (SRCC)
- Louisiana Office of State Climatology (LOSC)
- LSU AgCenter / LAIS Weather Monitoring Program
- CoCoRaHS Volunteer Network
- U.S. Drought Monitor (http://drought.unl.edu/DM/)
- NWS Climate Prediction Center (NWS/CPC)
- NWS Storm Prediction Center (NWS/SPC)
- NWS Hydrometeorological Prediction Center (NWS/HPC)
- NOAA/National Climatic Data Center (NCDC)
- WAFB-TV (Ch. 9), Baton Rouge

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